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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,509	01/06/2004	Andrew F. Knight		3323

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EXAMINER	
ALI, MOHAMMAD M	

ART UNIT	PAPER NUMBER
3744	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/751,509	KNIGHT, ANDREW F.	
	Examiner	Art Unit	
	Mohammad Ali	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-19 and 21-23* is/are pending in the application.

4a) Of the above claim(s) *21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6, 8-19,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-6, 8-19, 22-23 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase, "may be" in lines 11 and 15 of claim 1; in lines 11 and 14 of claim 8; and in lines 11 and 15 of claim 12 make the claims indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-7, 11, 14, 16-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maier-Laxhuber et al, (6,349,560) in view of Anthony (5,865,036). Maier-Laxhuber discloses applicant's basic inventive concept, a rechargeable cooling device (1) and a method for using said device, comprising a first reservoir (evaporator, 8) configured to contain a liquid (15), a second reservoir (9) configured to contain a vapor of said liquid (column 4, line 47), a heat exchanger (surface of the evaporator 8) connected to at least one of said first and second reservoirs; and a reusable valve (13), wherein said first reservoir is in fluid connection with said second reservoir via said reusable valve, and wherein he cooling device is configured so that when said first reservoir contains said liquid at a first pressure and said second reservoir contains said vapor at a second pressure lower than said first pressure, said heat exchanger may be made to absorb heat at least in part by opening said reusable valve and allowing said liquid to vaporize as said first and second pressures equalize (col. 2, lines 6-32) and when pressures in said first and second reservoirs are approximately equal at a first temperature, and after said heat exchanger has been made to absorb heat, said cooling device may be recharged for a subsequent use at least in part by cooling said cooling device to a second temperature lower than said first temperature (col. 4, lines 50-55), wherein said second reservoir further comprises an absorbent material (14) chosen to absorb said vapor, said cooling device further comprising a third reservoir (3, see FIG. 3) connected to said heat exchanger and configured to hold a substance (4) desired to be cooled, said device further comprising a refrigerator comprising a second heat exchanger (col. 3, lines 63-65) connected to at least one of said first and second

reservoirs, wherein said refrigerator is removably connected to said cooling device and wherein said valve is adjustable so that a flow rate of vapor passing through said valve may be adjusted (col. 4, lines 43-50), substantially as claimed with the exception of stating that the refrigerant used has a vapor pressure at room temperature greater than 1 atm., that the temperature of the liquid refrigerant is at room temperature prior to vaporizing, that said rechargeable cooling device is an insulated mug, wherein said third reservoir is shaped to contain no more than about 48 fluid ounces of a beverage, wherein said rechargeable cooling device is an insulated cooler having a storage volume in excess of one cubic foot, wherein said cooling volume is shaped to hold and cool at least one and not more than four 12-ounce beverage cans and wherein said second reservoir has a volume at least ten times greater than a volume of said first reservoir. Anthony teaches the use of a liquid refrigerant used in a container having a vapor pressure at room/ambient temperature greater than 1 atm (see col. 1, lines 43-49 and col. 8, lines 32-40) to be old in the refrigeration art. The applicant should note that the change in size for the intended use is a design consideration within the skill of the art, In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 196%. Also, Maier-Laxhuber teaches how "no special demands are made on the size and configuration of the containers. Thus, all containers common at present (for example, vats, containers, cans, open containers, foil sacks, multilayer packaging, plastic containers, canisters, hobbocks, bottles, jugs, and so forth) which are suitable for flowable fling materials can be used as long as the sorption apparatus can be coupled for proper operation" (col. 4, lines 6-13). Finally, since vapor takes up a lot less volume than liquid it would have

been obvious to have the liquid reservoir to be much smaller than the vapor reservoir. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Rubin to modify the system of Maier-Laxhuber, by having a liquid refrigerant used
in a container having a vapor pressure at room/ambient temperature greater than 1 atm in order to increase the storage size of the refrigerant (col. 1, lines 30-45) and improving its efficiency and by sizing the beverage container in order to allow for any type of beverage container to be cooled and thus diversify the product.

Claims 12, 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,349,560 to Maier-Laxhuber et al. in view of Anthony and U.S. Patent Application Publication 2005/0061006 to Bonaquist et al. In FIG. 2, Maier-Laxhuber Discloses substantially applicant's basic inventive concept substantially as claimed with the exception of stating that said cooling device further comprising a refrigerator comprising a second heat exchanger connected to at least one of said first and second reservoirs; wherein said refrigerator is removably connected to said cooling device; Anthony teaches the use of a refrigerant at room/ambient temperature and greater than 1 atm.; Bonaquist shows the use of a second heat exchanger (25, FIG. 3) conected to at least one of said first and second reservoirs (27 and 2%, to be old in the refrigeration art. Also, per claim 13, the applicant is reminded that if it were considered desirable for any reason to use a separate structure instead of one-piece construction disclosed in Bonaquist, it would be merely a matter of obvious engineering choice,

In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Anthony and Bonaquist to modify the system of Maier-Laxhuber, by using a refrigerant at room temperature and greater than 1 atm., and then using a second heat exchanger to cool the refrigerant, recharge it for further use and remove the refrigerant from the storage area (Bonaquist, (00271).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,349,560 to Maier-Laxhuber et al. in view of Anthony, as applied to claim 1 above, and further in view of U.S. Patent 4,976,112 to Roberts et al. Maier-Laxhuber discloses applicant's basic inventive concept, a rechargeable cooling device, substantially as claimed with the exception of stating' the use of a pressure relief valve connected to at least one of said first and second reservoirs. Roberts shows the use of a pressure relief valve (top of 70, FIG. 1) to be old in the beverage refrigeration art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Roberts to modify the system of Maier-Laxhuber, by having a pressure relief valve in connection with one the refrigerant reservoirs in order to prevent accidental pressure build up and a possible accident (col. 3, lines 15-16).

Response to Arguments

Applicant's arguments, see remarks pages 8-14, filed 11/14/05, with respect to the rejection(s) of claim(s) 1, 3-7, 11-19 and 22 under 103 final rejections have been

fully considered and are persuasive. Therefore, the final rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is (571) 272-4806. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melba Bumgarner can be reached on (571) 272-4709. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohammad M. Ali
November 27, 2005